

KOLCHOVA, E. A.

Dissertation: "The Microbiological Characteristics of the Principal Soils of Bulgaria." Card Biol Sci, Inst of Microbiology, Acad Sci USSR, 19 Jun 54. (Vechernyaya Moskva, Moscow, 10 Jun 54)

SO: SUM 318, 23 Dec 1954

KOLCHEVA, B.A.

Microbiological characteristics of Bulgarian soils. Priroda 44
no. 9:69-72 8 '55. (MLRA 8:11)
(Bulgaria--Soil microorganisms)

L 00732-67 ENI(m)
ACC NR: AP6025695

(A)

SOURCE CODE: UR/0339/66/000/005/0017/0022

AUTHOR: Kharin, S. Ye.; Kolcheva, R. A.

ORG: Voronezh Technological Institute (Voronezhskiy tekhnologicheskii institut) 32

TITLE: Kinetics of decomposition of sucrose 1

SOURCE: Sakharaya promyshlennost', no. 5, 1966, 17-21

TOPIC TAGS: sucrose, chemical decomposition, chemical kinetics, carbohydrate

ABSTRACT: The partial decomposition of sucrose was studied as a function of concentration, active acidity, and temperature. Sucrose concentrations of 0.5, 1.0, and 2.0 moles per liter were used, and the pH was varied from 1.0 to 12.0. It was found that the decomposition of sucrose in acidic and alkaline media at 70-90°C is chiefly affected by hydrogen and hydroxyl ions. The pH values at which the rate constant of the decomposition reaction and hence the reaction rate are minimum were found for 70, 80, and 90°C. As the temperature rises, pH_{min} decreases. The pH corresponding to the minimum rate constant does not change appreciably with varying sucrose concentration. The activation energy was found to be 24300 cal for 70-80°C and 24080 cal for 80-90°C. Orig. art. has: 2 figures, 4 tables, and 13 formulas.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 003

Card 1/1 LC

UDC: 664.1:543/545

KOL'CHEVSKAYA, YE. P.

KOL'CHEVSKAYA, YE. P.: "The planning, organization, and execution of practical excursions to study physics under the conditions existing in a large industrial city." Moscow, 1955. Min Education RSFSR. Moscow Oblast Pedagogical Inst. (Dissertation for the Degree of Candidate of Pedagogical Sciences)

SO: Knizhnaya Letopis' No. 46, 12 November 1955. Moscow.

KOLCHIGIN, B., gvardii general-leytenant v otstavke

Useful manual ("Negotiating obstacles, grenade throwing, and hand-to-hand combat" by N.I. Kharlamov and B.N. Shtandel'. Reviewed by B. Kolchigin). Voen. vest. 39 no.3:89-90. Mr '59.

(MIRA 12:6)

(Military education)

(Kharlamov, N.I.) (Shtandel', B.N.)

KOLCHIGIN, B., general-leytenant v otstavke

Against the commonplace in defensive operations. Voen. vest. 41
no.2:36-37 F '62. (MIRA 15:3)
(Attack and defense (Military science))

MOSKALENKO, A.A., starshiy prepodavatel' KOLCHIGIN, N.I.

Forest workers should come under the general standard norms of labor laws. Okhr. truda i sots. strakh. 4 no.6:30-31 Je '61.

(MIRA 14:7)

1. Bryanskiy tekhnologicheskiy institut, vneshtatnyy tekhnicheskoy inspektor oblsoseta profsoyuzov (for Moskalenko).
2. Predsedatel' Bryanskogo obkoma profsoyuza rabochikh lesnoy, bumazhnoy i derevoobrabatyvayushchey promyshlennosti (for Kolchigin).

(Forest workers)

(Labor laws and legislation)

BOX, Ivan Ivanovich, akad.; LAVROV, V.V., kand. geologo-mineralogicheskikh nauk, otv. red.; KOLCHIGIN, L.Ya., red.; ROROKINA, Z.P., tekhn. red.

[Observations of mineral deposits during geological prospecting; practical recommendations] Nabliudeniya po poleznym iskopayemym pri geologicheskikh issledovaniyakh; metodicheskie rekomendatsii. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1957. 53 p. (MIRA 11:12)

1. Akademiya nauk KazSSR (for Bok).
(Prospecting)

KOLCHIN, A. and others.

Bee Culture

Early spring work on the apiary. Pchelovodstvo No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 195~~6~~², Uncl.

KOLCHIN, A.

VOROB'YEV, Ye.; KOLCHIN, A.

"Foster relations between city trade organizations and collective farms." Sov.torg. no.9:54 S '57. (MIRA 10:8)

1.Nachal'nik Glavnogo upravleniya trgovli Lengorispolkoma (for Vorob'yev) 2.Nachal'nik gorodskogo upravleniya trgovli, g. Stalingrad (for Kolchin).

(Farm produce--Marketing)

KOL'CHIK, A. Geroy Sotsialisticheskogo Truda, brigadir

Matter of nation-wide importance. Mast.ogl. 9 no.10:5-6 0'60.
(MIRA 13:10)

1. Shakhta imeni Lutugina, Kombinata Stalinoi'.
(Efficiency, Industrial)

KOLCHIN, A.; KOMAROV, V., mekhanik; ARENDT, G.

Where is the new ER-10 excavator? Stroi. truboprov. 7 no.4:25
Ap '62. (MIRA 15:5)

1. Nachal'nik stroitel'nogo uchastka No.6 tresta
Soyusprovodmekhanizatsiya (for Kolchin). 2. Nachal'nik
spetsial'nogo konstruktorskogo byuro Gazstroymashina (for
Arendt).

(Excavating machinery)

KOL'CHIK, A.

Kopeks add up to millions of rubles. Sov.profsoiuzy 6 no.16:
18-19 N '58. (MIRA 12:2)

1. Brigadir rabochikh ochistnogo zaboya shakhty imeni Lutugina
tresta "Chistyakovantratsit."
(Mining engineering--Costs)

KOL'CHIK, A.A., brigadir ochestnogo zaboya; GUSEV, V.I.; KLIMOVITSKIY, I.I.;
SIZOV, V.G.

Reducing coal mining costs is a most important task for the national
economy. Ugol' 33 no.8:18-21 Ag '58. (MIRA 12:1)

1.Shakhta imeni Lutugina (for Kol'chik). 2.Nachal'nik shakhty imeni
Lutugina. (for Gusev). 3.Nachal'nik uchastka No.4 shakhty imeni
Lutugina (for Klimovitskiy). 4.Nachal'nik otдела organizatsii truda
shakhty imeni Lutugina (for Sizov).
(Coal mines and mining--Costs)

KOL'CHIK, A.

Guarantee of success. Mast. ugl. 9 no. 4:17 Ap '60. (MIRA 13:11)

1. Brigadir rabochikh ochistnogo saboya shakhty imeni Lutugina,
Donbass.

(Donets Basin--Coal mines and mining)

KOL'CHIK, A., Geory Sotsialisticheskogo Truda; SHAFIKOV, Kh.;
KOLESOV, O.; POYMANOV, D.

The program of the party is the people's banner. Sov.shakht.
10 no.9:4-5 S '61. (MIRA 14:8)

1. Brigadir shakhty imeni Lutugina tresta Chistyakovantratsit
(for Kol'chik). 2. Rukovoditel' kombaynovoy brigady uchastka
kommunisticheskogo truda shakhty No.37 kombinata Karagandaugol'
(for Shafikov). 3. Nachal'nik shakhty kommunisticheskogo
truda "Kommunist-Novaya" v Donbasse (for Kolesov). 4. Zamestitel'
sekretyarya partorganizatsii shakhty No.29 kombinata Vorkutugol'
(for Poymanov).

(Coal mines and mining—Labor productivity)

ZOLOTUKHA, N.I.; KOL'CHIK, A.A., brigadir kompleksnoy grigady,
Geroy Sotsialisticheskogo Truda

Reached a monthly output of 25,411 tons of coal with the
KR-2 cutter loader. Ugol' 37 no.9:11-14 S '62. (MIRA 15:9)

1. Shakhta imeni Lutugina tresta Chistyakovantratsit
Donetskogo sovet narodnogo khozyaystva. 2. Nachal'nik
shakhty imeni Lutugina tresta Chistyakovantratsit
Donetskogo soveta narodnogo khozyaystva (for Zolotukha).
(Donets Basin—Coal mines and mining—Labor productivity)
(Coal mining machinery)

KOL'CHIK, A.A., brigadir kompleksoy brigady

25,411 tons of coal extracted with the "Rodina" (KR-2)
cutter loader. Ugol' Ukr. 6 no.8:7-8 Ag '62. (MIRA 15:11)

1. Shakhta im. Lutugina Chistyakovskogo tresta
predpriyatiy ugol'noy promyshlennosti Donbassa
Ministerstva ugol'noy promyshlennosti SSSR.
(Donets Basin—Coal mines and mining—Labor productivity)

ACC NR: AP6033396

SOURCE CODE: UR/0293/66/004/005/0731/0739

AUTHOR: Kolchin, A. A.; Lebedev, V. Y.; Skrebtsov, G. P.

ORG: none

TITLE: Geometric factor and the directional diagram for single crystalline detectors and for a coaxial telescope

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 5, 1966, 731-739

TOPIC TAGS: radiation detector, coincidence counting

ABSTRACT: The authors are concerned with the interpretation of the number of nuclear particles recorded by a detector in terms of the intensity of radiation. For an isotropic radiation, the geometric factor F is given by

$$N = F \cdot I. \quad (1)$$

where I is the intensity of particles and N is the number of recorded pulses. For a single infinitely thin detector with an area S and for an isotropic radiation,

$$N = \int_0^{2\pi} \int_0^{\pi/2} I S \sin \theta \cos \theta d\theta d\varphi, \quad (2)$$

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UDC: 539.107.45

ACC NR: AP6033396

where θ is the zenith angle, ϕ - azimuth, and $\Gamma = \pi/8$. The authors calculate Γ for two cases: cylindrical and square base detectors of finite thickness. Next, they derive Γ for a coaxial telescope (two thin coincidence detectors). Finally, they derive a directional diagram for the case when the radiation is anisotropic. Orig. art. has: 6 figures and 20 equations.

SUB CODE: 03/ SUBM DATE: 24Feb66/ ORIG REF: 002

Card 2/2

KISELEV, B.P.; BALASHOV, V.L.; KOLCHIN, A.A.; LEBEDEV, V.V.

Separation of barium and strontium by the exchange method in
the system amalgam - solutions. Radiokhimiia 6 no. 1:114-
117 '64. (MIRA 17:6)

KOLCHIN, A.I.

Stal'nye Kanaty: eksperimental'nye issledovaniia, raschet i eksploatatsiia. Moskva, Mashgiz, 1950. 102 p. illus.

Bibliography: p. (104)

Steel ropes; experimental research, calculation and operation.

DLC: TAL92. W8K6

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

KOLCHIN, A.I., dotsent. kandidat tekhnicheskikh nauk.

Mechanised loading and unloading in cold storage warehouses. Trudy
L'vovskogo 10:85-100 '56. (MIRA 10:6)

1. Leningradskiy tekhnologicheskii institut kholodil'noy promyshlen-
nosti.

(Loading and unloading) (Cold storage warehouses)
(Industrial power trucks)

KOLCHIN, A.I., kandidat tekhnicheskikh nauk, dotsent.

Methods for evaluating the effectiveness of mechanized loading and unloading in cold storage warehouses. Trudy MTIKHP 11:125-133 '56.
(MIRA 10:6)

1. Kafedra detaley mashin.
(Loading and unloading)

KOL'CHIN, A.I., kand. tekhn. nauk.

Calculating the life time of steel ropes subjected to variable loads,
[Isd.] LONITOMASH 43:135-141 '57. (MIRA 11:6)
(Wire rope)

KOLCHIN, Andrey Iosafovich; LYUDSKOV, B.P., red.; BABICHEVA, V.V.,
tekhn.red.

[Mechanisation of loading and unloading operations in cold
storage warehouses] Mekhanizatsiia pogruzochno-rasgruzochnykh
rabot na kholodil'nikakh. Moskva, Gos. izd-vo torg. lit-ry,
1958. 219 p. (MIRA 11:12)
(Loading and unloading)

25180

S/056/61/040/006/001/031
B102/B214

24.7700

AUTHORS: Kolchin, A. M., Mikhaylov, Yu. G., Reynov, N. M.,
Rumyantsova, A. V., Smirnov, A. P., Totubalin, V. N.

TITLE: Investigation of the destruction of superconductivity in
thin tin films

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40,
no. 6, 1961, 1543 - 1550

TEXT: The possibilities of practically applying superconduction effects
(cf. Proc. IRE, 48, 1233 and 1395, 1960) make it of interest to study the
destruction of the superconductivity of thin metal films as caused by cur-
rent. Subject to this work was to elucidate the regularities of the destruc-
tion of superconductivity by a magnetic field or a current, as well as to
describe the laws governing the return of the film to the superconducting
state on removal of the field (current) in a larger temperature interval.
The investigations were limited to films of thicknesses $(1 - 8) \cdot 10^{-5}$ cm
under the action of current pulses of different shapes and lengths and at
temperatures near the critical one. The results of the measurements have

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Investigation of ...

been presented earlier to the Seventh All - Union Conference on Low Temperature Physics in Khar'kov (June 1960). The films were prepared by vacuum sputtering (10^{-6} mm Hg). Fig. 1 shows the appearance of such a sample with the current and voltage contacts. The backing was glass or mica, chemically purified and heated in vacuo. The film thickness was determined by weighing; the breadths of the films were 0.10 - 0.25 mm. The resistances of the films amounted to 30 - 130 ohms at room temperature. Direct current experiments were done with a potentiometer circuit with galvanometer or rheochord with automatic recording of current and voltage by recording potentiometers of the types ЭПН-09М (EPP-C9M) and ЭПН-11М (EPP-11M). The transition of the sample to (from) the superconducting state was established by an oscillographic apparatus (use of an oscillograph of the type ЭНО-1 (ENO-1)) which allows to observe and photograph the volt-ampere characteristics. Generators of the types ГИ-2 (GIS-2) and ГИ-3М (GI-3M) were used to study the destruction of superconductivity by pulsed current (duration of the pulse 0.1 - 10 sec). The current and voltage were recorded simultaneously by a double-ray oscilloscope of the type ДЭО-1 (DESO-1). In direct current operation at 4.2°K, films of resistance of 1 - 6 ohms and resistivity 0.4 - 1 μohm/cm were investigated.

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The critical temperature of these films for a measuring current of 40 μ a lay between 3.75 and 3.85°K and was therefore higher than for massive tin. The experiments showed that with increasing current the resistance increased first very slowly, and for currents over 10 ma more rapidly. The transition of the sample from the superconducting to the normal state on increasing current was investigated by taking measurements with triangular pulses. The influence of thermal effects on the transition could also be studied in this way. It was found that the sample was heated even by a rise and fall in the pulse of 0.1 μ sec each. This heating is attributed to the appearance of a hysteresis on transition from normal to the superconducting state. Fig. 8 shows a volt - ampere characteristic (pulse growth 0.5 μ sec, fall 0.1 μ sec, sequence 50 cps, $I_{max} = 150$ ma). Further measurements were made by rectangular pulses of 0.1 - 10 μ sec (front 0.05 - 0.15 μ sec). Fig. 10 shows an oscillogram of the transitions of a sample from the superconducting to the normal state for a pulse length of 2 μ sec (upper curve: current, lower: voltage). The following results were obtained from the studies: The regularities found hold for films of such thicknesses for which the current destroying the superconductivity depends only slightly on the thickness.

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For thinner samples, other regularities are to be expected. Under the action of very short pulses the transition is greatly affected by Joulean heat and heat caused by Foucault currents. Besides the hysteresis of thermal effects on transition from the normal state to the superconducting state, there is also observed a hysteresis which is attributed to the existence of superconducting domains in the normal phase. The duration of the spontaneous transition to the superconducting state is considerably smaller than that of the destruction of the intermediate state arising when the superconducting state is destroyed by current. The duration of transition from the superconducting to the normal state depends on the amplitude of the current in the pulse. For sufficiently large amplitudes, the transition time is $< 5 \cdot 10^{-5}$ sec. A. A. Galkin is mentioned. There are 12 figures and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The most important references to English-language publications read as follows: J. W. Bremer, V. L. Newhouse. Phys. Rev. 116, 309, 1959 and Phys. Rev. Lett. 1, 282, 1958; C. R. Smallman et al. Proc. IRE, 48, 1562, 1960.

ASSOCIATION: Leningradskiy fiziko-tehnicheskii institut Akademii nauk SSSR
(Leningrad Institute of Physics and Technology of the Academy
of Sciences, USSR)

Card 4/5

KOLCHIN, A.M.; KRIVKO, N.I.; REYNOV, N.M.

Experimental study of a superconducting Nb-Zr alloy at the
frequency 9250 Mc. Zhur. eksp. i teor. fiz. 44 no.1:53-56 Ja '63.
(MIRA 16:5)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR.
(Niobium-Zirconium alloys)

PANCHENKOV, G.M.; KOLOHIN, A.M.; AKISHIN, P.A.

Mass spectrometric study of the thermionic emission of cesium
with various emitters. Fiz. tver. tela 1 no.6:919-922 Je '59.
(MIRA 12:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Thermionic emission)

88352

5.5310(1273, 1282, 1160)

S/076/60/034/009/040/041XX
B020/B056

AUTHORS: Kolchin, A. M., Malakhov, V. F., Panchenkov, G. M.

TITLE: Mass Spectrometric Analysis of Boron Isotopes by the Thermionic Emission Method

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 9, pp. 2124-2125

TEXT: Mention is made in publications that the method mentioned in the title may be used for the isotopic analysis of boron, and offers the following advantages as compared to other methods: 1) Low material consumption, 2) no "memory" effect, 3) a small number of peaks left over due to impurities, and 4) high probability that no secondary processes act upon the analysis results. For the practical use of the method mentioned in the title, the ion current, which, according to published data amounted to 10^{-13} a, had to be measured accurately by means of series mass spectrometers. To solve the problem, the intensity of the ion current must be increased to 10^{-12} a, and its stability must be improved. All measurements were made by means of the mass spectrometer MC-4 (MS-4) with a thermionic source. For heating, 20 mm long,

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Mass Spectrometric Analysis of Boron Isotopes S/076/60/034/009/040/041XX
by the Thermionic Emission Method B020/B056

0.8-1.0 mm wide, and 0.05 - 0.1 mm thick bands were used. Borate, meta-borate, and a borate-boroxide mixture served as emitters, the first compound being the most favorable one. The intensity of the ion current increases with the reducing properties of the band material (Pt, Ni, W, Ta). From an annealed platinum band, no Na_2BO_2^+ ions were emitted.

The ion current emitted from the surface of annealed Ni-, W-, and Ta-bands had an intensity of the order of $6 \cdot 10^{-14}$ - $5 \cdot 10^{-19}$ a. Therefore, the attempt was made to increase the intensity of the ion current by addition of pulverulent reduction agents (Al, Mg), of which magnesium was found to be the most effective. When using a mixture of borate powder as emitter, a sufficiently intensive (of the order of 10^{-11} a), constant ion current was obtained, permitting the analysis of boron isotopes with an accuracy of 1%. The optimum working temperature was 700-750°C. The analysis results are given in Table 1. In calculation, no correction was introduced for the content of heavy oxygen isotopes. To explain the "memory" effect, analyses of specimens with highly different isotope compositions were carried out successively on one day. The results are given in Table 2. In contrast to the results

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Mass Spectrometric Analysis of Boron
Isotopes by the Thermionic Emission Method

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B020/B056

obtained by V. Shyutse, no effect of the fractioning of isotopes was found either in the analysis or after further 4 hours. The results are given in Table 3, from which it follows that the fluctuations of the isotope ratio B^{11}/B^{10} decrease with time, which is due to the improved stability of the ion current of $Na_2BO_2^+$. It is therefore recommended to make the analysis 30 minutes after switching on the necessary ion current. There are 3 tables and 4 references: 3 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: March 22, 1960

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9.3120

AUTHORS:

Panchenkov, G. M., Kolchin, A. M.

68996

S/020/60/131/02/042/071

B004/B007

TITLE:

The Part Played by Chemical Reactions in Thermionic Emission 1

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 2, pp 357 - 359 (USSR)

ABSTRACT:

The authors give a report on their experiments concerning the interaction of an ion-emitter with a metal base acting as a heater. The investigations were carried out by means of a mass spectrometer of the type MS-4. The ion exchanger $Al_2O_3 \cdot 4SiO_2 \cdot xH_2O$, which was impregnated with a CsCl solution, was used as emitter. Applied to a carefully cleaned platinum base in form of a thin coating, no ions were emitted by the emitter. Applied onto a tantalum base, it emitted Cs^+ -ions. On a platinum base, which was, however, mixed with tantalum powder, the emitter gave the same ion current as on the tantalum base. The following investigations were carried out for the purpose of determining the influence of the chemical activity exerted by the metal powder admixed to the emitter upon the ion current. The effect of Cu, W, Ta, Zr, Al, and graphite was investigated. The ion current increased with the activity of the metal. Graphite powder yielded

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The Part Played by Chemical Reactions in Thermionic
Emission

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the same emission as tantalum. Also platinum, which was repeatedly exposed to the flame of a gas burner, may cause an ion current, probably because of the absorption of impurities, chiefly of carbon. Further experiments concerned the emission of Cs^+ during heating up to 1500° without addition of metals to the emitter, the following temperature decrease to 600° also resulting in an ion current, probably as a result of the thermal dissociation of the emitter by the previous high temperature. Addition of MnO_2 led to

an initially considerable decrease of the ion current, which increased, however, again in the further course of the experiment.

From all these results, the authors draw conclusions as to a chemical interaction between emitter and base, the formation of Cs-atoms, and their ionization on the surface. They carry out a calculation of ΔZ_T^0 and show in figure 1 that the logarithm of

the ion current of Cs^+ at 655° depends linearly on ΔZ_1^0 . They

refer to papers by M. A. Yeremeyev (Refs 1,2). Finally, the authors thank Z. F. Kolchina for her great help in this investigation.

There are 1 figure and 5 references, 4 of which are Soviet.

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The Part Played by Chemical Reactions in Thermionic
Emission

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B004/B007

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: November 21, 1959, by A. V. Topchiyev, Academician

SUBMITTED: November 4, 1959

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[illegible]

3
KOLCHIN, A.M., PANCHENKOV, G.M., MALAKHOV, V.F. AND STENY, YA.

"Die massenspektrometrische Isotopenanalyse an Bor auf der Grundlage der Thermionem-Emission."

✓ Report presented at the 2nd Conf. On Stable Isotopes
East German Academy of Sciences, Inst. of Applied Physical Material
Leipzig, GDR 30 Oct-4 Nov 1961.

KOLCHIN, A.M.; PANCHENKOV, O.M.

"Massenspektrometrische Isotopenanalyse am Bortrifluorid"

"Massenspektrometrische Isotopenanalyse an einigen Elementen der Seltenen Erden"

Third Working Conference on Stable Isotopes, 28 October to 2 November 1963, Leipzig.

ARSHAKUNI, R. G.; KOLCHIN, A. M.; PANCHENKOV, G. M.

Isotopic analysis of silicon with the aid of a mass spectrometer.
Zhur. fiz. khim. 37. no. 3:677-679 Mr '63. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet.

L 16927-63

EWP(q)/EWT(m)/HDS AFFTC/ASD JD

8/76/63/037/004/019/029

AUTHOR: Arshakuni, R. G., Kolchin, A. M., Panchenkov, G. M. 59

TITLE: Mass spectroscopic analysis of germanium isotopes 19

PERIODICAL: Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 893-896

TEXT: A mass spectroscopic method of the isotopic analysis of germanium has been developed. For the analysis the complex salt $BaGeF_6$ which decomposes in a vaporizer is used. The amount of substance which is used in the analysis is 0.3-0.5 milligrams of $BaGeF_6$, which is not a minimum quantity. The $BaGeF_6$ interacts with the material of the vaporizer with the formation of GeF_2 . The mass spectrum which is formed upon the ionization of the molecules of GeF_2 is studied. The expediency of an isotopic analysis of germanium for peaks of GeF^+ ions is shown and an analysis of a sample of metallic germanium is performed. An analysis is made of random errors in measurement. There are 3 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov), Moscow

SUBMITTED: May 22, 1962

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MATSASHEK, F.; KOLCHIN, A.M.; PANCHENKOV, G.M.

Mass spectrometric isotopic analysis of silicon. Vest. Mosk. un.
Ser. 2: Khim. 19 no.5:57-61 G-O '61.

(MIRA 17:11)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.

ACC NR: AP6013508

UR/0120/66/000/002/0099/0101

AUTHOR: Kolchin, A.M.; Kolesnikov, B.Ya.

ORG: Chemistry Department, MGU (Khimicheskiy fakultet MGU)

TITLE: Mass-spectrometric ion detector of the scintillation type

SOURCE: Prihory i tekhnika eksperimenta, no 2, 1966, 99-101

TOPIC TAGS: ion, ion beam, ion detector, scintillation ion detector, mass spectrometer, mass spectrometer sensor, plastic seal, mass spectroscopy

ABSTRACT: The paper describes a very sensitive detector of ions for use in the mass spectrometer MS-4. It fills the need for the registration of very weak ion beams, equivalent to ion currents of 10^{-15} - 10^{-19} amps. The detector is based upon the scintillation phenomenon, aided by an ion/electron converter. Sensitivities three orders of magnitude higher than those of the usual electrometric concept have been obtained. The design permits quick switching from the scintillation to the electrometric mode. This feature is useful for calibration and is necessary for measuring ion currents higher than 10^{-13} amps. The conceptual schematic of the detector is shown in Fig. 1. Here, 1 is the final entrance slit of the mass spectrometer. If the emitter of secondary electrons, 2, is grounded, the ion beam proceeds along a line trajectory to enter the Faraday chamber 4 of the conventional registration terminal. With minus 14 kv

Card 1/2

UDC: 621.384.8

ACC NR: AP6013508

at the emitter, the ions are accelerated toward it, knocking off secondary electrons.

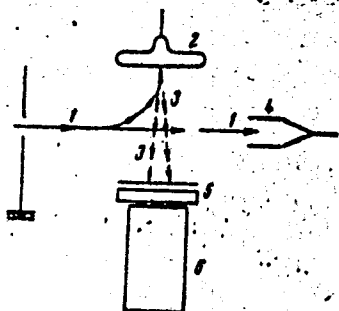


Fig. 1. Conceptual schematic of the scintillation type ion detector.

The same field accelerates the electrons toward the (grounded) fluorescent film, 3, deposited on the glass plate, 5, in the field of view of the photoelectric multiplier 6, which delivers the registration signal. The system is intrinsically stable to the extent that fluctuation sources are essentially those of the power supplies. The minimum observed registered signal was $2 \cdot 10^{-18}$ amps. As an ion counter, the detector is linear from several ion/sec to 10^5 ion/sec. The discrimination level is adjusted so that at a control loss of over 1%, the background would not exceed 10 - 15 pulses per second. The developed design, compatible as an attachment to the MS-4 mass spectrometer, is described in detail. Vacuum seals were made of Ftoroplast-4 (Teflon) and showed a reliable vacuum level of 10^{-7} torr as well as satisfactory insulation. Authors thank G.M Pan-fenkov and L.N. Gorokhov for their constant interest in this work. Orig. art. has 2 figures.

SUB CODE:

20 /

SUBM DATE: 20Jan65 /

ORIG REP: 005 /

OTH REF: 004

Card 2/2

88740

8/127/60/000/012/002/005
B012/B054

18.1150

AUTHORS: Kolchin, A. V. and Vlasov, A. I. (Moscow)

TITLE: New hard metals for the armoring of chisels for cable-tool drilling

PERIODICAL: Gornyy zhurnal, no. 12, 1960, 29-30

TEXT: The Institutes VSEGEI (All-Union Scientific Research Institute of Geology) and TsNIGRI (Central Scientific Research Institute of Mine Prospecting) tested chisels with welded-on sintered alloys of the Stalinite type and of T3 (T3) Relite. The welded-on layers, however, cracked and became brittle when drilling in hard rock. In 1958-1959, the Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (VNIITS) (All-Union Scientific Research Institute of Hard Alloys (VNIITS)) together with the Magnitogorskiy zheleznyy rudnik (Magnitogorsk Iron Mine) and the Magnitogorskiy gorno-metallurgicheskiy institut (Magnitogorsk Institute of Mining and Metallurgy) developed new welding alloys. Sintered tube electrodes of the types T 6 (T 6) and T 30 (T 30), and powder-charged steel tubes (8 mm in diameter and 400 mm long) were produced. The weight

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S/127/60/000/012/002/005
B012/B054

New hard metals for the armoring...

ratio charge tube was 0.75 : 1. A protective casing permitted the welding on a.c. and d.c. apparatus, and protects the individual components of the charge from oxidation and burning out. These experimental electrodes were tested in the mines of the Noril'skiy kombinat (Noril'sk Combine) and Magnitogorskiy kombinat (Magnitogorsk Combine). The T6 alloy was welded on the cutting edges and lateral surfaces of the chisel (at 780-820°C) immediately after the forging of the chisel. The layer welded-on was 2-4 mm thick. The T30 electrodes were welded on the cold, worn-out chisel on the spots of maximum wear. For an appropriate shaping, the chisel was then heated to 1150-1200°C, directed, and the welded-on layer was forged together with the chisel. In the Magnitogorsk Mine, drilling was performed with an 1100-1450 kg boring tool in rock with a hardness of 1-15 according to Protod'yakonov. In the mine of the Noril'sk Combine, the alloys Relite T3, T6, and T30 were tested on horseshoe chisels 200 mm in diameter. Relite T3 and T6 were welded onto the chisels immediately after forging. Results showed that the alloys T6 and T30 increased the resistance to wear of chisels in cable-tool drilling to the 1.5-2.5 fold, as compared with usual steel chisels. There are 2 tables and 2 Soviet-bloc references.

Card 2/3

88 740

New hard metals for the armoring...

S/127/60/000/012/002/005
B012/B054

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh
splavov, Moskva (All-Union Scientific Research Institute of
Hard Alloys, Moscow)

X

Card 3/3

L-8378-65 ENT(m) DIAAP/RAEM(t)
ACCESSION NR: KR4044032

8,0058/63/000/011/V022/V022

SOURCE: Ref. zh. Fizika, Abs. 11V154

AUTHOR: Bersin, A. K.; Kolchin, A. Ye.

TITLE: Angular distribution of photoneutrons from Ta¹⁸¹ and Bi²⁰⁹

CITED SOURCE: Izv. Tomskogo politekhn. in-ta, v. 122, 1962, 19-20

TOPIC TAGS: angular distribution, photoneutron, recoil proton, nuclear photoemulsion

TRANSLATION: Investigates the angular distribution of photoneutrons from Ta¹⁸¹ and Bi²⁰⁹. As γ -radiation source is used a betatron with maximum energy $E_{\gamma \text{ max}} = 24$ Mev.

Neutrons forming in the investigated specimens were recorded by means of recoil protons in nuclear photoemulsions of type NIKFI Ia-2 (10) microns thick. In the case of Ta, the photographic plates were set at angles of 30, 60, 90, 120, 150, 180 degrees to the direction of the γ -quanta beam, in the case of Bi these angles were

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L 8378-65

ACCESSION NR: ARW044032

30, 60, 90, 115, 135, and 150°. The experimental points for T_{s181} , within limits of error, lie quite well on the curve $0.36 + (0.65 \pm 0.1) \sin^2 \theta$, and for R_{i209} on the curve $0.45 + 0.55 \sin^2 \theta$.

SUB CODE: NP

ENCL: 00

Card 2/2

KOLCHIN, B.; LINDER, I.

Sadko played this chess. Nauka i zhizn' 28 no.8:110-111 Ag '61.
(MIRA 14:8)
(Chessmen)

KOLCHIN, B. A.

33155

Opyt Metallograficheskogo Issledovaniya Drevnerusskikh Zheleznykh Veshchey, Kratkiye
Soobshch. O Dokladakh I Polevykh Issledovaniyakh In-Ta Istorii Material. Kul'tury,
Vyp. 30, 1949, c. 42-53

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

KOLCHIN, B. A.

Novgorod - Antiquities

Excavations of ancient Novgorod, Nauka i zhizn' 19 No. 4, 1952

9. Monthly List of Russian Accessions, Library of Congress, July 195³, Uncl.
2

EVTYUKHOVA, L. A.; KOLCHIN, B. A.

Archaeology - Methodology

Some methodological procedures in archaeological research in the U.S.S.R. Vest. AN SSSR, 22, No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

KOLCHIN, B.A.; ARTSIKHOVSKIY, A.V., doktor istoricheskikh nauk, professor,
Pechenev; KOROL'EV, A.V., kandidat tekhnicheskikh nauk, retsentsent;
KOSTOMAROV, V.M., kandidat tekhnicheskikh nauk, redaktor.

[Metalworking techniques in ancient Russia] Tekhnika obrabotki metalla
v drevnei Rusi. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i
sudostroit. lit-ry, 1953. 158 p. (MLRA 7:6)
(Metalwork)

KOLCHIN, B.A.

[Ferrous metallurgy and metalworking in old Russia (pre-Mongolian period)]
Chernaia metallurgii i metalloobrabotka v drevnei Rusi (domongol'skii period).
Moskva, Izd-vo Akademii nauk SSSR, 1953. 257 p. (MLBA 618)
(Metalwork)

KOLCHIN, B.A.

BRITKIN, A.S., professor; MONGAIT, A.L., kandidat istoricheskikh nauk.

A book on the history of Russian metallurgy. ("Ferrous metallurgy and metal working in ancient Russia." B.A. Kolchin.) Reviewed by A.S. Britkin, A.L. Mongait. Vest AN SSSR 24 no.5:103-106 My '54.
(Metallurgy--History) (MIRA 7:6)

KOLCHIN, B.A., kand.istor.nauk; MONGATT, A.L., kand.istor.nauk

Isotopes acting as archaeologists. Nauka i zhizn' 27
no.8:22-26 Ag '60. (MIRA 13:9)
(Isotopes--Industrial applications)
(Archaeology)

KOLCHIN, B.A., kand. istoricheskikh nauk

An ancient chronicle of the forest. Priroda 53 no.5:34-41
'64. (MIRA 17:5)

1. Institut arkhologii AN SSSR, Moskva.

KOLOKHIN, I.P.

Clinical aspects of paratyphoid fever in infants. Zdrav.Kazakh. 16
no.10:18-22 '56. (MLRA 9:12)

1. Iz detskoy ob'yedinennoy bol'nitsy no.1, g.Oshimkenta.
(PARATYPHOID FEVER)

KOLCHIN, F.P., kand.med.nauk

Complications following treatment of purulent meningitis in
children with endolumbar penicillin injections. Zdrav.Kazakh.
17 no.2:18-21 '57. (MIRA 12:6)

1. Zav. detskoy ob'yedinennoy bol'nitsy No.1 v g.Chimkente.
(MENINGITIS) (PENICILLIN)

KOLCHIN, F.P.; PAN'KINA, M.V.

Q fever in southern Kazakhstan. Zdrav.Kazakh. 17 no.7:21
'57. (MIRA 12:6)

1. Iz oblastnoy sanepidstantsii i detskoy ob'yedinennoy bol'-
nitsy No.1 g. Chimbkenta.

(KAZAKHSTAN--Q FEVER)

KOLCHIN, F.P.

Lamblia in children and their significance in intestinal pathology.
Zdrav. Kazakh. 18 no.1:44-49 '58. (MIRA 13:7)

1. Iz detskoy ob'yedinennoy bol'nitsy No. 1 g. Chimkenta.
(GIARDIASIS)

USSR / Zooparasitology. Parasitic Protozoa. Flagellates. G

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19638

Author : Kolchin, F. P.

Inst : Not given

Title : *Lamblia Intestinalis* in Children and Its Significance in Intestinal Pathology

Orig Pub : Zdravookhr. Kazakhstana, 1958, No 1, 44-49

Abstract : Examination of 8393 children (town of Chikment), of the ages of up to 14 years, showed that the infection by *Lamblia intestinalis* (L) in various groups of children attains 18.3-50.4%. The greatest percentage of those who had been infected is observed among children suffering from chronic dysentery (50.4%, and during the examination in a year's time - 65.1%). A

Card 1/2

heavier incidence of dysentery and frequent transmission into a chronic form is noted during the presence of the infection. A (quinacrine hydrochloride) treatment assists in a speedier and more stable cure of dysentery. An increase of L infection is observed in autumn. -- S. S. Rottenburg

APPROVED FOR RELEASE: 06/19/2000 and CIA-RDP86-00513R000723720016-3

Card 2/2

KOLCHIN, F.P.

Xanthomatosis generalisata ossium. Zdrav. Kazakh. 18 no. 2:40-43
1958. (MIRA 13:8)

1. Is detskoy ob'yedinennoy bol'nitsy No 1 g.Chimkenta.
(LIPIDOSIS)

EXCERPTA MEDICA Sec 7 Vol 13/10 Pediatrics Oct 59

2831. EOSINOPHIL CONTENT OF THE PERIPHERAL BLOOD IN CHILDREN
WITH LAMBLIASIS (Russian text) - Kolchin F.P. - ZDRAVOOKHR.
KAZ. 1958, 18/8 (64-66) Tables 1

Eosinophilia is not a constant symptom in children with lambliasis. In 23.5% of the present patients lambliasis was accompanied by a normal count of eosinophils in the blood, in 44.9% by eosinophilia, and in 31.6% by eosinopenia or aneosinophilia. Cases of bacillary dysentery in children infected with intestinal lamblia were accompanied by eosinophilia 3 times more frequently than were dysentery cases without lambliasis. Where eosinophilia is present in dysentery patients, infection by lamblia should always be suspected.

(L,7)

KOLCHIN, F.P.; KOLCHINA, G.V.

Electrocardiographic investigations in some forms of primary
pulmonary tuberculosis in children. Zdrav. Kazakh. 21 no.2:
34-37 '61. (MIRA 14:3)

1. Iz Respublikanskogo detskogo protivotuberkuleznogo sanatoriya
"Borovoye". (TUBERCULOSIS) (ELECTROCARDIOGRAPHY)

KOLCHIN, F.P.; KOLCHINA, G.V.

Electrocardiographic investigations in some forms of primary
pulmonary tuberculosis in children. Zdrav. Kazakh. 21 no.2:
34-37 '61. (MIRA 14:3)

1. Iz Respublikanskogo detskogo protivotuberkuleznogo sanatoriya
"Borovoye".

(TUBERCULOSIS)

(ELECTROCARDIOGRAPHY)

KOLCHIN, G.A.

Characteristics of industrial accident among drilling workers.
Ortop.travm. 1 protes 19 no.2:74-75 Mr-Ap '58 (MIRA 11:5)

1. Is Asnakayevskoy rayonnoy bol'nitsy TASSR.
(ACCIDENTS, INDUSTRIAL
among drilling workers (Rus))

GORSHKOV, N.I., kand. voyenno morskikh nauk, kapitan 1-go ranga; POL'SHAKOV,
P.M., dotsent, kand. voyenno morsk. nauk, kapitan 1-go ranga;
SOLOV'YEV, M.V., inzh.-kapitan 2-go ranga; KOLCHIN, G.A., kapitan
3-go ranga; SEN', K.A., kapitan-leytenant

It should be improved and published anew. Mor. sbor. 48 no.12:
82-87 7 '64. (MIRA 18:2)

SOV/128-59-11-6/24

AUTHORS: Kolchin, I.F. and Ryzhenkov, V.V., Engineers

TITLE: Improving Quality of Steel Castings

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 11, pp 12-14 (USSR)

ABSTRACT: When casting steel, the Plant "Sibtyazhmash" uses a paste made of chromite against the formation of crust. The chrome ore originates from the Kimpersayskoye deposit; its contents are given in Table on page 12. The fire-proof covering in the form of a paste is placed on the surface of the mold; the paste composition is 86-89% chromite, 2% dextrine and 9-12% fodder molasses. A sprayer is used for surfacing with paste. Since 1955, mixtures with liquid glass and the blowing of molds with carbon dioxide have been used at the plant. At present, over 70% of cores are fashioned from mixtures containing liquid glass. The molds are blown through a hollow model provided with outlet gas channels (Figs 1 and 2). The blowing lasts 2-5 minutes; carbon dioxide consumption is 15-18 kg per ton of castings. The

Card 1/2

SOV/128-59-11-6/24

Improving Quality of Steel Castings

author describes several types of pulleys manufactured for overhead cranes. All these pulleys are produced with the application of progressive methods mentioned above. There are 1 table, 7 diagrams and 5 photographs.

Card 2/2

PHASE I BOOK EXPLANATION 807/5304

Sovetskaniye po teorii liternykh protsessov. 5th, 1959
 Technost' otivok; teorya sverkhchaniya (Accuracy of Castings; Trans-
 actions of the Fifth Conference on the Theory of Founding Process-
 es) Moscow, Mashgis, 1960. 206 p. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya.
 Komissiya po tekhnologii mashinostroyeniya.

Ed. (title page): B. B. Gulyayev, Doctor of Technical Sciences,
 Professor, Ed. of Publishing House: G. M. Soboleva, Tech. Ed.:
 A. P. Givara; Managing Ed. for literature on Hot-Processed
 Metals: S. Ya. Golovnin, Engineer.

PURPOSE: This book is intended for scientific and technical person-
 nel at scientific research institutes, factories, and schools of
 higher education.

COVERAGE: The book contains 19 reports read at a conference on the
 accuracy of castings. The conference was organized by the
 Committee on Processing in Machine Building and sponsored by the
 Institut mashinovedeniya AN SSSR (Institute of the Science of
 Machines of the Academy of Sciences USSR). The reports, pre-
 sented by leading specialists, science workers, and production
 personnel discuss the present state of the problem of the accu-
 racy of castings and methods of solving the problems involved.
 There are 58 references, mostly Soviet.

Kozlov, L. Ye. [Engineer]. Distortion of Sand Molds

Emkornitskiy, S. S. [Engineer], and M. Ts'uan-chin [Engineer].
 Dimensional Errors of Castings Caused by Patterns and Flasks 125

Dubrovskiy, A. M. [Engineer]. Effect of Thermal Distortion
 of the Molding Mixtures on the Accuracy of Castings 131
 The work of investigating the distortions and thermal stress
 in the molding mixtures was carried out under the supervi-
 sion of P. P. Bary.

Fomchenko, S. I. [Engineer], and B. B. Gulyayev. Production
 of Precision Castings in Shell Molds Pressed From a Molten
 Mixture 145

Kolchin, I. P. [Engineer], and Y. V. Rubtsov [Engineer].
 Production of Large Precision Steel Castings by Using Chem-
 ically Hardening Mixtures 153

Rubtsov, Y. V. [Doctor of Technical Sciences, Professor], and
 I. P. Kolchin [Engineer]. Dimensional Accuracy of Investment
 Castings 160

Sorokov, I. I. [Candidate of Technical Sciences]. Dimen-
 sional Accuracy and Surface Roughness of Castings Obtained
 by Various Methods
 O. A. Kabanov, A. Ye. Danilov, A. I. Belyayev, and Engi-
 neer V. B. Shal'man participated in making castings. 180

Fakel'uglikh, M. P. [Engineer], and B. B. Gulyayev. Formation
 of the Contours of Castings in Die Casting 193

Kolomishchenko, A. G. [Engineer]. Accuracy of Castings Ob-
 tained in Metal Molds 203

Card 6/7

KOLCHIN, I. F. and RYZHENKOV, V. V.

"An Investigation of the Quality of Castings with the Utilization of Various Moulding Materials and Coatings"

report presented at the 7th Conference on the Interaction of the Casting Mould and the Casting, sponsored by the Inst. of Mechanical Engineering, Acad. Sci. USSR, 25-28 January 1961.

1.1500

8/123/61/000/015/029/032
A004/A101

AUTHORS: Kolchin, I. F., Ryshenkov, V. V.

TITLE: Manufacturing high-precision large-size steel castings using chemically solidifying mixtures

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 15, 1961, 16, abstract 150112 (V sb. "Tekhnost' otlivok". Moscow, Mashgis, 1960, 153-159)

TEXT: The authors give an account of the production practice of the foundry shop of the "Sibtyazhmash" Plant in the manufacture of large-size steel precision castings weighing from 500 kg to 25-30 tons, using chemically solidifying mixtures. Some particular examples are presented which characterize the efficiency of using these mixtures to increase the finish and accuracy and improve the casting quality. There are 4 figures.

[Abstracter's note: Complete translation]

Card 1/1

MIKHAYLENKO, Yu.Ya.; LEBEDEV, N.N.; KOLCHIN, I.K.

Determination of the isomers of cymene and tert.butyltoluene by
infrared absorption spectra. Zhur.anal.khim. 15 no.2:159-162
Mg-Ap '60. (MIRA 13:7)

1. Moskovskiy khimiko-tekhnologicheskii institut im. D.I.
Mendeleeva.

(Cymene--Spectra)

(Toluene--Spectra)

ACC NR: AP7001365

(A)

SOURCE CODE: UR/0413/66/000/021/0032/0032

INVENTOR: Gus'kov, A. K.; Bobkov, S. S.; Gribov, A. M.; Kolchin, I. K.; Zhakov, V. A.; Kovalev, N. I.; Lisunova, M. B.; Sokolova, V. A.; Kuznetsova, S. N.; Butusova, V. A.

ORG: none

TITLE: Preparative method for a catalyst. Class 12, No. 187738

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 32

TOPIC TAGS: acrylonitrile, chemical synthesis, catalyst preparation, *catalysis*

ABSTRACT: An Author Certificate has been issued for a preparative method for a catalyst for the synthesis of acrylonitrile by oxidative ammonolysis of propylene. A carrier with improved strength and heat resistance is prepared by molding, drying and heating to 1200—1250 a mixture of Kaolin and α -alumina. The carrier is subsequently impregnated with bismuth, molybdenum, and phosphorus compounds. [80]

SUB CODE: 07/ SUBM DATE: 01Apr64/ ATD PRESS: 5109

Card 1/1

UDC: 66.094.373

KOLCHIN, I.K.; GUS'KOV, K.A.; SKALKINA, L.V.

Synthesis of acrylic acid nitrile by the oxidative ammonolysis
of propylene. Khim. prom. 41 no. 12:881-887 D '65 (MIRA 19:1)

KOLCHIN, I.K.; GAL'PERIN, Ye.L.; BOBKOV, S.S.; MARCOLIS, L.Ya.

Catalytic oxidation and oxidative ammonolysis of propylene on
bismuth tungstate. Neftekhimiia 5 no.1:111-117 Ja-F '65.
(MIRA 18:5)

S/075/60/015/004/023/030/XX
B020/B064

AUTHORS: Mikhaylenko, Yu. Ya., Lebedev, N. N., Kolchin, I. K.,
and Kutyryna, Ye. G.

TITLE: Analysis of Multicomponent Mixtures From Infrared
Absorption Spectra Information 2. Determination of
the Isomers of Chloro Cumenes, Tertiary Butyl Benzenes,
and Chloro Diphenyl Methanes

PERIODICAL: Zhurnal analiticheskoy khimii, 1960. Vol. 15, No. 4,
pp. 495 - 499

TEXT: The analysis is described in detail in the previous publi-
cation of this series (Ref. 1). The spectrophotometer MKC-11 (IKS-11)
was used with bulbs of sylvine 0.09 cm thick and with specially
purified carbon disulfide as a solvent (Ref. 2). Calibration was made
by determining the extinction coefficients of every aromatic compound
for every wavelength used. The o-, m-, and p-isomers of chloro
cumene, tertiary butyl chloro benzene, and chloro diphenyl methane

Card 1/4

Analysis of Multicomponent Mixtures From
Infrared Absorption Spectra. Information
2. Determination of the Isomers of Chloro
Cumenes, Tertiary Butyl Benzenes, and
Chloro Diphenyl Methanes

8/075/60/015/004/023/030/XX
B020/B064

were used for calibration. Chloro cumene and butyl chloro benzene were obtained by the Grignard reaction from the respective bromo-chloro benzene isomer and alkyl bromide, using n-heptane instead of absolute ether as a solvent (Ref. 3). The chloro diphenyl methane isomers resulted from the condensation of the respective chloro benzyl chloride with benzene in the presence of $AlCl_3$. The constants of the compounds are given in Table 1. First, all compounds were qualitatively analyzed to determine the absorption maxima of the isomers. To find the absorption bands of the individual isomers, the data published on disubstituted benzene derivatives were used, i.e., the band at $770 - 740\text{ cm}^{-1}$ is characteristic of the ortho-disubstituted derivatives, the bands at $800 - 770\text{ cm}^{-1}$ and $710 - 690\text{ cm}^{-1}$ of the meta-disubstituted derivatives, and the band at $833 - 780\text{ cm}^{-1}$ of the para-disubstituted derivatives (Refs. 8, 9). Figs. 1, 2, and 3

Card 2/4

Analysis of Multicomponent Mixtures
From Infrared Absorption Spectra.

S/075/60/015/004/023/030/XX
B020/B064

Information 2. Determination of the
Isomers of Chloro Cumenes, Tertiary Butyl Benzenes, and Chloro
Diphenyl Methanes

show the absorption spectra of the chloro-alkyl benzene isomers studied. The absorption band lying in the range for p-, m-, and o-disubstituted benzenes are obtained on the curves. The wavelengths most convenient for determining the isomers are given. Moreover, the absorption curves show absorption maxima at 1037 and 1100 cm^{-1} which may be due to the vibrations of the benzene cycle (Ref. 9). The optical density of each compound in CS_2 solution was measured, and the extinction coefficients were calculated for each wavelength. Tables 2, 3, and 4 give the results. Since the Lambert - Beer law does not hold for the solutions examined, it was necessary to employ the method of successive approximations in determining the composition of mixtures just as in Ref. 1. The results of an analysis of artificial mixtures showed that the mean error is approximately 4%. There are 3 figures, 4 tables, and 10 references: 4 Soviet, 2 German, 3 US, and 1 French.

Card 3/4

Analysis of Multicomponent Mixtures From
Infrared Absorption Spectra. Information
2. Determination of the Isomers of
Chloro Cumenes, Tertiary Butyl Benzenes, and Chloro Diphenyl Methanes

S/075/60/015/004/023/030/XX
B020/B064

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im.
D. I. Mendeleyeva
(Moscow Institute of Chemical Technology imeni
D. I. Mendeleyev)

SUBMITTED: September 13, 1958

Card 4/4

KOLCHIN, I.K.; ROEKOV, S.S.; MARGOLIS, I.Ya.

Catalytic oxidation and ammoxidation of propylene on bismuth molybdates. *Neftekhimiya* 4 no.2:301-307 Mar-Apr'64 (MIRA 17:8)

1. Institut khimicheskoy fiziki AN SSSR.

KOLCHIN, I.K.; GAL'PERIN, Ye.L.; BOBKOV, S.S.; MARGOLIS, L.Ya.

Bismuth-molybdenum-phosphorus catalysts of oxidation and of
oxidative ammonolysis of propylene. *Kin.i kat.* 6 no.5:878-
883 8-0 '65. (MIRA 18:11)

L 19646-65 EPF(c)/EPF(n)-2/EPF(c)/EPF(n)/EPF(c) P-1/2-1/2-1-1 EPF(c)/

ACCESSION NR: AP4044812 ¹³⁰ 3D/30 S/0078/64/009/009/2174/2178

AUTHORS: Yerman, L.Ya.; Gal'perin, Ye.L.; Kolchin, I.K.; Dobrzhanskiy, G.P.; Chernyshev, V.E.

TITLE: The $\text{Bi}_2\text{O}_3\text{-MoO}_3$ system

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 9, 1964, 2174-2178

TOPIC TAGS: Bi_2O_3 , MoO_3 system, x ray analysis, $\text{Bi}_2\text{O}_3\text{-MoO}_3$, $\text{Bi}_2\text{O}_3\text{-2MoO}_3$, $\text{Bi}_2\text{O}_3\text{-3MoO}_3$, $\text{Bi}_2\text{O}_3\text{-4MoO}_3$, synthesis, crystal structure, koech-
linite

ABSTRACT: The portion of the $\text{Bi}_2\text{O}_3\text{-MoO}_3$ system containing from 0-70% Bi was subjected to x-ray analysis. Samples were prepared by fusion at 750-950C of the required amounts of Bi and Mo oxides, or by fusion of bismuth nitrate and ammonium molybdate, or by coprecipitation of solutions of $\text{Bi}(\text{NO}_3)_3$ and $(\text{NH}_4)_2\text{MoO}_4$. The compounds $\text{Bi}_2\text{O}_3\text{-4MoO}_3$ indicated by E.H. Muller and F. Van Dyke Gruser (J. Amer. Chem. Soc., 27, 116 (1905)) was not found; it was believed to be a eutectic of $\text{Bi}_2(\text{MoO}_4)_3$ with MoO_3 . Three compounds were found: $\text{Bi}_2\text{O}_3\text{-MoO}_3$, $\text{Bi}_2\text{O}_3\text{-2MoO}_3$ (tetragonal lattice, $a = 11.80\text{\AA}$; $c = 5.40\text{\AA}$), and $\text{Bi}_2\text{O}_3\text{-3MoO}_3$.

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ACCESSION NR: AP4044812

3MoO_3 (monoclinic lattice, $a = 7.85\text{\AA}$, $b = 11.70\text{\AA}$, $c = 12.25\text{\AA}$, $\beta = 116^\circ 20'$). The molybdenum oxide did not form solid solutions at room temperature in the investigated portion of the $\text{Bi}_2\text{O}_3\text{-MoO}_3$ system. Orig. art. has: 4 tables.

ASSOCIATION: None

SUBMITTED: 06Jun63

SUB CODE: GC, IC

NR REF SOV: 001

ENCL: 00

OTHER: 015

Card 2/2

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Thermal Treatment of Spring Strips of Silicon Steel. K. P. Kolchin and I. A. Savinkov. (Katabestvennaya Stal, 1937, No. 2, pp. 27-33). The authors have investigated the influence of the thermal treatment of silicon steel strip (0.68% carbon, 1.72% silicon) on its elastic properties. The treatments carried out were: (1) Isothermal hardening (from 900° to 340° in a lead bath); (2) hardening in steps (quenching at 300-340°, immediate removal from the lead bath and cooling in air); (3) quenching in oil (from 900° to 20° C.). The last method causes distortion of the strip and is not to be recommended. The two other methods give about the same results; method (2) has the advantage of a continuous process. A comparison of the properties of the strip investigated with those of strip made at Sandviken, (which has about the same composition) revealed the possibility of a considerable increase in elasticity (about 90 bends over a radius of 7.5 mm. instead of 30). It was found that an improvement of this kind can be achieved by annealing the strip after the last rolling, preferably at 650-770° C. (In Russian).

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Graphitization of Strip Steel. K. P. Kulchin and E. L. Assur. (Katshevtvennaya Stal, 1937, No. 3, pp. 35-40). The authors have investigated four strip steels, two, A and B, made of carbon steel (1% carbon), and two, C and D, made of silicon steel (1.8 and 1.76% silicon). All of them showed no graphite spots before the thermal treatment. After annealing, the carbon steel A, which had a normal structure, still had only very few graphite inclusions, and these appeared first at 680-750° C. Steel B, which had an abnormal structure according to the McQuaid-Ehn test, developed a great number of graphite spots even at 600° C. Steel C, which contained 0.3% of chromium, did not exhibit graphitization, whereas steel D, without chromium, developed many black spots at 680-750° C. It is thus demonstrated that graphitization occurs during annealing, and the authors recommend the annealing of steel strip at 680° as rapidly as possible, to avoid this effect. Deformation by cold-working (e.g., rolling) before annealing strongly enhances the danger of graphitization. (In Russian).

ADD-118 METALLURGICAL LITERATURE CLASSIFICATION

10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000

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(Cattle--Transportation)

1.11R

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